

REMARKS

The courtesy of Examiner Benenson and SPE Sircus at the interview with the inventor on August 4, 2005 is acknowledged with thanks. At the interview, a proposed amendment to claim 4 was discussed. SPE Sircus suggested several changes to the claim to define the Zener diode lightning arrestor and the varistor with greater particularity. This present amendment is responsive to that suggestion.

Claims 4-5 and 10 were rejected as unpatentable over FUSSELL 4,023,071 in view of VERMIJ 4,703,299. Claims 6-7 and 9 were rejected as unpatentable further in view of GIRARD 5,831,808 and TUROLLA et al. 4,646,037. Claim 4 has been amended and claim 10 has been canceled. Reconsideration and withdrawal of the rejections are respectfully requested.

Support for the amendment to claim 4 is found in Figure 1 and at page 8, line 7 through page 9, line 14.

Amended claim 4 provides that the lightning arrestor irreversibly short circuits to substantially zero volts and thereafter carries a discharge current that is substantially higher than before short circuiting (line a in Figure 1). The varistor has a voltage-current curve (line b in Figure 1) that is below a corresponding voltage-current curve of the arrestor (line a in Figure 1) until a certain current is reached at which the voltage-current curve of the varistor is above the voltage-current curve of the arrestor causing the arrestor to

irreversibly short circuit, this certain current being greater than a current at which the arrestor would short circuit if the varistor were not present.

The applied references do not disclose or suggest using the claimed arrestor. The corresponding element in FUSSELL is the Zener diode 40 that is a standard Zener diode. The standard Zener diode has a voltage-current curve similar to line a of Figure 1 of the present application, except it does not short circuit at a high current; at a high current the Zener diode of FUSSELL will blow like a fuse and have substantially infinite resistance. The Zener diode defined in amended claim 4 short circuits so it has a very low (almost zero) resistance. There is no suggestion in the references to replace the standard Zener diode in FUSSELL with the arrestor of the type defined in amended claim 4 and thus one of skill in the art would not be motivated to do so.

The applied references also do not disclose or suggest using the claimed varistor whose voltage-current curve is below a corresponding voltage-current curve of the arrestor until a certain current is reached at which the voltage-current curve of the varistor is above the voltage-current curve of the arrestor causing the arrestor to irreversibly short circuit, where the certain current is greater than a current at which the arrestor would short circuit if the varistor were not present. Note that FUSSELL discloses the opposite relationship at column 7, lines 5-

18. The varistor conducts at point D (Figure 5) well before the standard Zener diode 40 is damaged.

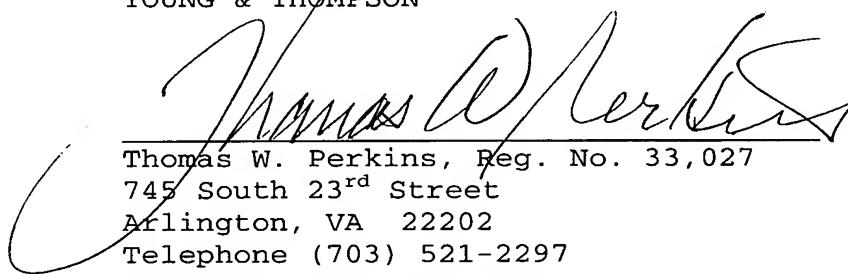
Accordingly, the amended claims avoid the rejections of record.

The cylindrical envelope that was in claim 4 has been moved to new claim 14.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

  
Thomas W. Perkins, Reg. No. 33,027  
745 South 23<sup>rd</sup> Street  
Arlington, VA 22202  
Telephone (703) 521-2297  
Telefax (703) 685-0573  
(703) 979-4709

TWP/mjr  
August 5, 2005